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Identifying Opportunities in a Challenging Short Selling Environment

In this white paper, we will dissect the transformation underway in the U.S. securities lending market by analyzing its liquidity characteristics, the dynamics impacting short demand, and potential regulatory pressures. The genesis of this research has been the consistent lament of short-focused hedge funds over a steady increase in their financing rates. Our findings evidence an opportunity for hedge funds and prime brokers to partner and combat continued rate pressures.

Key Takeaways

- Identification of contributors to rising securities lending costs
- Fee and liquidity pressure are likely to continue
- Hedge fund asset composition combined with the regulatory environment may produce a significant opportunity to formalize securities lending programs

Disappearing Share Liquidity

The S&P 500® Index is up almost 70% since the beginning of 2011, creating a challenging environment for money managers to generate returns short selling. The proliferation of corporate buybacks and mergers, coupled with the illiquid characteristics of new IPOs, has fundamentally changed the supply composition of U.S. equities. To demonstrate the impact of these trends, we examined U.S. equities priced above $3 per share with market capitalization exceeding $300 million during the period from January 2011 through June 2014. The parameters used were meant to capture a meaningful universe of securities eligible for institutional short selling. We analyzed the number of shares outstanding, float, short interest, and securities lending fees for each constituent. This 3.5-year period began with 2,329 securities totaling $14.58 trillion in market cap and ended with 2,621 securities representing $22.48 trillion in market cap, for an increase of 13% and 54%, respectively. We then excluded financial companies and two outlier securities from the analysis due to their extraordinary capital-raising efforts that resulted in significant increases in their shares outstanding. Overall, excluding outliers, the securities population and their associated shares outstanding increased 8.8% and 2.2%, respectively, while float decreased 0.7%.[1]

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The driving force behind float contraction has been the divergent composition between IPOs (new entrants) and securities exiting the sample universe. New entrants had only 51% of their shares on float, while companies exiting the universe had more traditional liquidity profiles with approximately 90% of their shares on float. When the population was segmented by market capitalization, small- and mid-cap securities experienced the most extreme deterioration in share liquidity. Small-cap security count remained constant, while mid-cap security count increased 24% (see Table 1, below). Despite rising security counts in aggregate, shares outstanding and float decreased 3.4% and 8.4%, respectively. Small- and mid-cap securities represent the majority of hard-to-borrows in the U.S. and the contracting liquidity trend presents a significant challenge for short sellers.

Increasing Short Demand

Two factors driving the increased demand for short selling have been hedge fund and liquid alternative growth. Hedge fund assets have grown from $1.9 trillion to $2.8 trillion, or 47%, over the last 3.5 years and estimates predict they will increase to $4.81 trillion by 2018. Over the same time period, liquid alternatives have increased from $151 billion to $294 billion, or 96%, and are projected to grow to $510 billion by 2018.[2]

Reduced liquidity presents a significant challenge given the increased short demand fueled by hedge fund and liquid alternative growth.

Based on Morningstar research, '40 Act alternatives' short exposure has increased from $27 billion to $52 billion, or 94%, since 2011 and is approaching 6% of short market value. Another contributing factor to demand is that ETF short market value has increased from $77 billion to $129 billion, or 67%, over the same time period.[3] When brokers create ETF units to lend, they're required to source and deliver the underlying constituents. However, short interest reported for individual equities does not reflect these implicit shares held short. Therefore, short interest is often understated on individual components of an ETF (especially an ETF with high short exposure). As liquid alternatives, RIAs and hedge funds continue to embrace short selling ETFs; individual equities will require a deeper examination of short interest and overall liquidity dynamics.

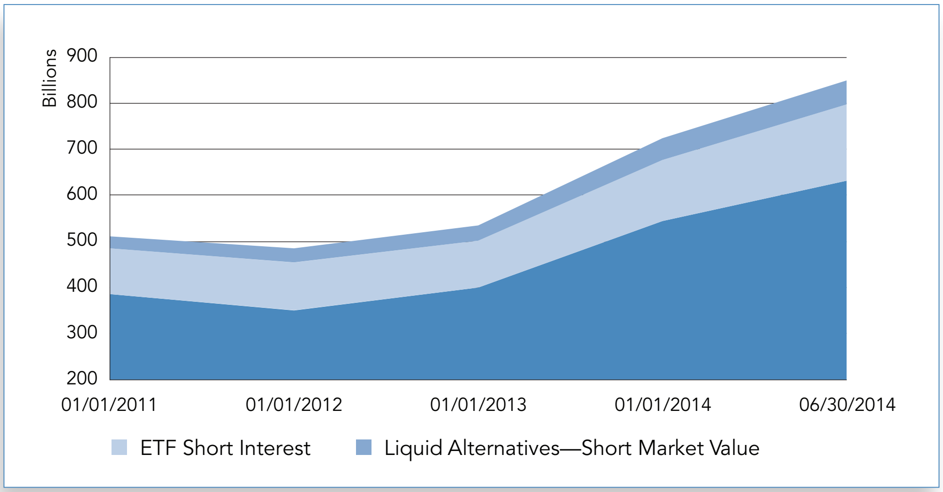
In aggregate, total U.S. short market value increased from $511 billion to $848 billion (or 66% (see Table 2, next page)), while the share equivalent increased from 18.0 billion to 22.4 billion (or 24%). Increased short demand coupled with diminished liquidity has resulted in overall U.S. securities lending fees increasing. Table 3 illustrates the change in quantity and weighted average fees of small- and mid-cap equities trading special (special refers to securities that have a fee of 50 basis points or more)[4] from 2011 to 2014. After segmenting small and mid-cap securities into reduced, hard and super classifications, we found that fees increased in four of six categories, while the number of securities increased by 148 or 111%. An

Table 1

SMALL- AND MID-CAP LIQUIDITY *(Share figures in billions)*	12/30/10	6/30/14	CHANGE
SMALL-CAP SECURITY COUNT	1,342	1,337	–0.37%
SMALL-CAP AGGREGATE FLOAT	55.0	49.6	–9.79%
SMALL-CAP AGGREGATE SHARES OUTSTANDING	66.6	62.7	–5.74%
MID-CAP SECURITY COUNT	700	867	23.86%
MID-CAP AGGREGATE FLOAT	98.9	91.3	–7.64%
MID-CAP AGGREGATE SHARES OUTSTANDING	108.2	106.1	–1.94%

Source: Security counts, float, and shares outstanding via Bloomberg LP, accessed August 25, 2014.

Table 2 U.S. Equity Short Interest

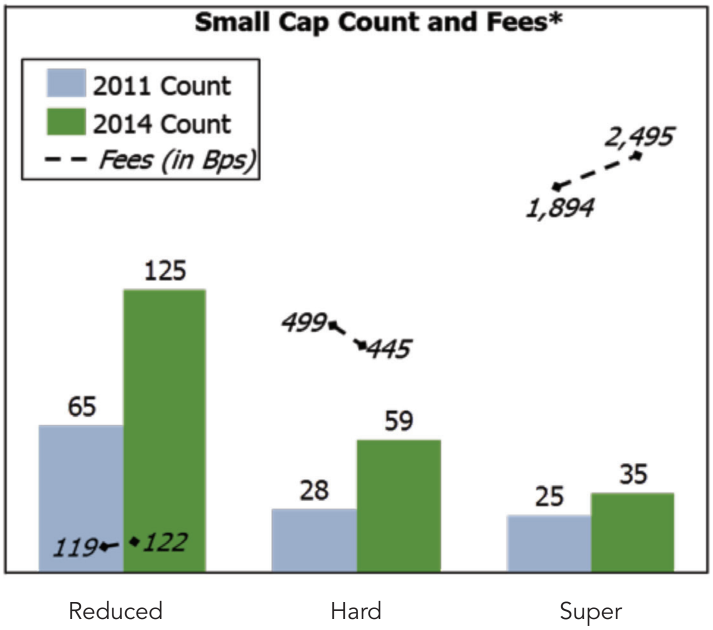


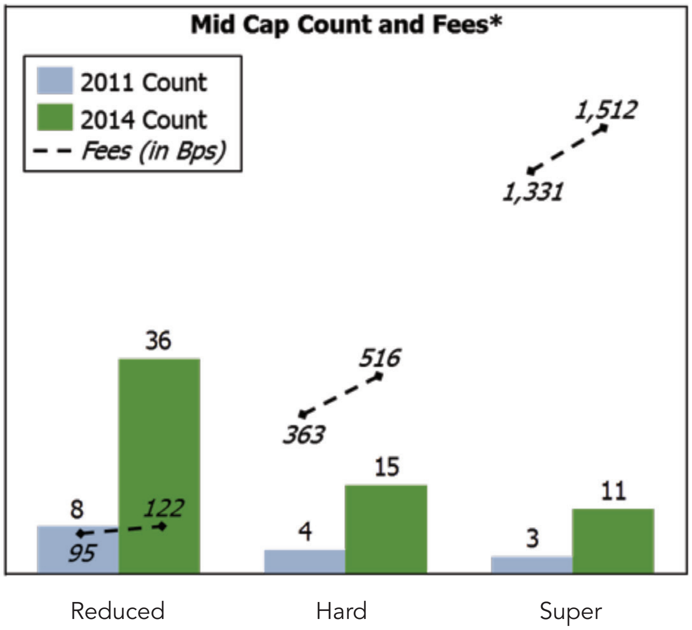
Source: Total and ETF Short Interest from Bloomberg as of 06/30/2014.
Liquid Alternatives—Short Market Value from Morningstar as of 06/30/2014.

analysis of Astec Analytics' aggregate U.S. "on loan" and average fee data validates these findings, showing weighted average fees increased from 39 basis points (bps) to 51 bps, or 30%, over the same 3.5-year time period.

Looking to the future, we would be remiss to not mention the impact of pending regulatory changes. Capital is more precious and therefore a more expensive resource. Regulatory changes can lead to spread increases on balance sheet and capital-intensive financing transactions to meet return on capital objectives. This could lead to further rate increases in specials and even potential increases in general collateral (general collateral refers to securities that trade at a fee of 50 basis points or less) pricing (which has been the only pricing to remain constant over the last 3.5 years).

Table 3





*"2011 and 2014 Count" refers to the number of securities trading special, hard and reduced. Rates were compiled by Astec Analytics.

Challenging Landscape although Opportunities Exist

The perfect storm for short sellers has been a victory for long-only managers. Long-only managers have benefited from the 70% appreciation in the S&P 500 while supplementing their returns with securities lending income. Traditional asset managers, such as mutual funds, have had formal securities lending programs for decades. Managers typically outsource lending to intermediaries (custodians/agent lenders) to extract income by lending their securities to prime brokers. As displayed in Table 4, the income opportunity for three passively managed ETFs covering small (IWM), mid (IJH), and large capitalizations (IVV), show that yields range from 19–103 bps for securities on loan. The impact on total performance based on AUM ranges from 0.4 bps to 17 bps annually. Since the Federal Reserve began easing rates in 2007 and moved to a zero-interest-rate policy in 2008, asset managers have transitioned away from lending general collateral (due to low reinvest) and focused their efforts on "intrinsic lending" or specials. The focus on extracting additional yield from short sellers has resulted in rate increases along with rate volatility. Another factor contributing to rate increases and volatility is the consolidation of lenders over the past decade. The consolidation has led to a concentration in supply that is now managed by only four or five of the largest lenders, thereby reducing competition.

Although traditional asset managers have benefited from these market dynamics, it is important to note that '40 Act alternatives and hedge funds asset compositions are more heavily weighted in mid- and small-cap securities (see Table 5, next page). Their favorable asset composition combined with increased overall securities lending fees presents a vast opportunity. Liquid alternative funds are taking advantage of this opportunity by using turnkey securities lending programs offered by their custodians. Although hedge funds hold a favorable asset mix, prime brokers have never provided solutions to manage a formal securities lending program.

Table 4

ETF SECURITIES LENDING REVENUES *(dollar figures in millions)*	LARGE CAP (IVV)	MID-CAP (IJH)	SMALL CAP (IWM)
ASSETS UNDER MANAGEMENT	54,366	20,641	28,816
ASSETS ON LOAN*	1,205	1,984	4,793
SECURITIES LENDING REVENUE	2.2	8.7	49.4
YIELD VS ASSETS ON LOAN	19 bps	44 bps	103 bps
YIELD VS AUM	.4 bps	4 bps	17 bps

Source: AUM figures, securities lending balances, and revenues via respective Investment Company 2014 Annual reports.[5]

*"Assets on loan" is a snapshot of the market value of equities lent through securities lending programs at fiscal year-end for the underlying products comprising this analysis. Fiscal year-ends may differ depending on product sponsor.

Historically, prime brokers accessed hedge fund securities via rehypothecation (This refers to brokers accessing securities pledged as collateral for their own purposes, such as securities lending). Hedge funds typically sacrificed the revenue stream associated with rehypothecation to secure a margin loan from their prime brokers. This paradigm is shifting due to the size and economics associated with hedge fund supply and a confluence of regulatory changes.

To evidence the opportunity available to the hedge fund industry, we analyzed hedge funds' 13F filings as of June 2014 which report $2.4 trillion of U.S. equity holdings. With short interest totaling $848 billion, hedge funds' holdings represent roughly 2.8x the value of short interest. Breaking down short interest by U.S. common equities at an issuer level, hedge fund holdings can cover 87% of total short interest (90% general collateral and 60% of specials).[6]

Although mutual funds' U.S. equity holdings are approaching $5 trillion, '40 Act regulations prohibit mutual funds from lending more than 33% of their total assets. Hedge funds are not restricted by this regulation

Given the fact that hedge funds consistently overweight small- and mid-cap securities vs. mutual funds, it would be logical to expect that liquid alternative managers' securities lending returns will exceed those of traditional managers.

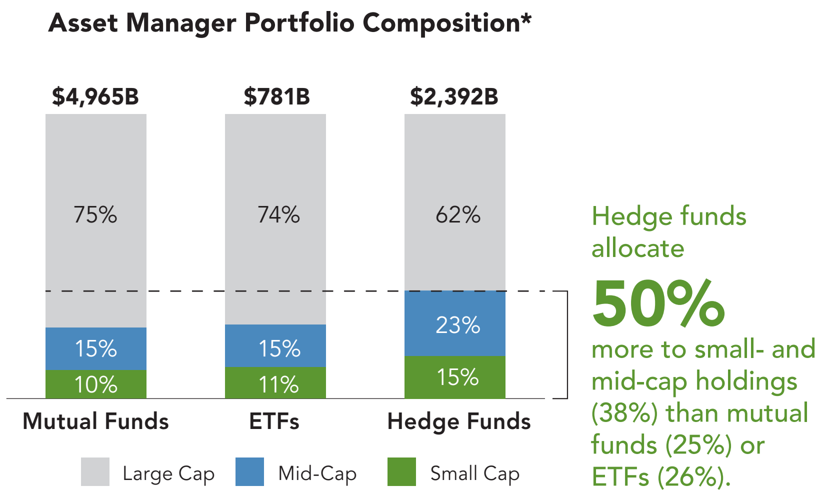
and therefore have more equities available to loan versus mutual funds. In addition, hedge funds possess 50% greater allocation to small- and mid-cap equities providing increased value in the securities lending market. Hedge funds' mid-cap and small-cap holdings totaled $535 billion and $359 billion with a weighted average fee of 32 bps and 59 bps, respectively. Excluding general collateral securities, hedge funds mid-cap and small-cap holdings totaled $29 billion and $43 billion with a weighted average fee of 448 bps and 699 bps, respectively.[7]

It's clear the hedge fund industry has the potential to recognize a securities lending yield greater than the mutual fund industry. Increasing securities lending rate trends along with prime brokers' focus on capital efficiencies will further compound the value of hedge fund supply. When a prime broker is required to borrow a security externally to cover a customer short, the capital and balance sheet usage can make certain trades economically burdensome. One of the primary manners in which prime brokers can influence capital efficiencies is through greater internalization. This is the process of funding short positions with internal supply which is available via rehypothecation and is more capital efficient than borrowing externally. The need for brokers to continue to reduce balance sheet and capital intensive financing transactions will increase the value of accessing inventory through internalization. Managers who use leverage, in the form of margin borrowings, will extract more value from their holdings due to the capital efficiencies offered via rehypothecation.

To review the opportunity offered via internationalization, we evaluated U.S. margin debits within broker/dealers, which are at an all-time high, increasing from $276 billion to $464 billion or 68% since 2011. It can be estimated that U.S. broker/dealers have access to approximately $650 billion (140% of margin balances) in securities eligible to rehypothecate (not including proprietary inventory, fully paid or other collateral pledged).[8] The largest opportunity to achieve greater internalization is the general collateral market. General collateral accounts for $718 billion or 85% of total short market value. General collateral is the only segment within the U.S. securities lending market which hasn't recognized a fee increase over the last 3.5 years. When general collateral is viewed in isolation versus an external borrow, return characteristics are not attractive to brokers. As brokers continue their efforts to comply with pending regulation, capital pressures will intensify and could lead to repricing of general collateral.[9]

A move towards the multi-prime broker environment has benefited hedge funds with price transparency, counterparty risk diversification, and an à-la-carte menu of product offerings. The unintended consequence has been an extremely fragmented internalization market. Although hedge funds hold the collateral necessary to cover the majority of short interest, and prime brokers hold the margin debits needed to cover the majority of short interest, both parties are still forced to borrow externally from traditional asset managers. Given increased regulatory pressures and the depth and breadth of hedge funds' equity holdings, the market requires technology to match hedge funds' holdings vs. prime brokers needs to drive higher internalization. This can result in maximizing capital efficiencies, in turn minimizing hedge fund managers' borrowing costs while increasing returns for shareholders.

Table 5



*Portfolio composition as of March 2013, based on Morningstar data.

Sources: AUM figures via Morningstar Inc., accessed August 10, 2014. Hedge fund holdings via Ipreo Holdings LLC, accessed August 20, 2014.

Hedge fund holdings are based on 13F filings as reported for filing date 06/30/2014. All data as of 06/30/2014.

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[1]Company-level share data sourced via Bloomberg LP, accessed August 21, 2014. Securities included had to have a minimum market capitalization of $300 million and a minimum price of $3.00 per share.

To isolate the impact of market trends that have been reducing aggregate float in the U.S. equity markets, we removed financial companies and two additional outliers. Financial companies were removed to eliminate the impact of share issuances due to regulatory requirements.

[2]Source for hedge fund AUM growth:

Hedge Fund Research, Inc., "Second Quarter 2014," HFR Global Hedge Fund Industry Report (July 2014).

Source for projected hedge fund growth:

Citi Investor Services, "Opportunities and Challenges for Hedge Funds in the Coming Era of Optimization, Citi—Markets and Securities Services,

http://www.citibank.com/icg/global_markets/prime_finance/docs/Opportunities_and_Challenges_for_Hedge_Funds_in_the_Coming_Era_of_Optimization.pdf

Source for liquid alternative AUM growth:

Strategic Insight, "Alternatives Industry Analysis, 2013," Strategic Insight (October 2013).

Morningstar Inc., accessed 9/10/2014.

[3]Short exposure for liquid alternatives was time sourced via Morningstar Inc., accessed September 10, 2014.

Short interest data was sourced via Bloomberg LP, accessed August 20, 2014.

[4]Trading special refers to securities that have a weighted average fee greater than 50 basis points according to Astec Analytics, accessed August 20, 2014.

[5]AUM figures, securities lending balances, and revenues via respective Investment Company 2014 Annual reports.

[6]13F holdings data sourced via Ipreo Holdings LLC, accessed August 20, 2014. Short interest data sourced via Bloomberg LP, accessed August 20, 2014. Securities lending fee data sourced via Astec Analytics, accessed August 20, 2014. Securities with a borrow fee of less than 50 basis points were deemed general collateral.

[7]13F holdings data sourced via Ipreo Holdings LLC, accessed August 20, 2014. Securities lending fee data sourced via Astec Analytics, accessed August 20, 2014.

[8]U.S. margin debit data sourced via Bloomberg LP, accessed September 2, 2014.

[9]Securities lending fee data sourced via Astec Analytics, accessed September 4, 2014. Securities with a borrow fee of less than 50 basis points were deemed general collateral.

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